

## THREE DIMENSIONAL INTERACTIVE DISPLAY

### ABSTRACT

A three-dimensional (3-D) interactive display system, display and method of forming thereof. A transparent capaciflector (TC) camera is formed on a transparent shield layer on the screen surface. A first dielectric layer is formed on the shield layer. A first wire layer is formed on the first dielectric layer, wires on the first wire layer run in a first direction. A second dielectric layer is formed on the first wire layer. A second wire layer is formed on the second dielectric layer, wires on said second wire layer are orthogonal to wires on the first wire layer. The TC camera is protected by a surface dielectric layer. Wires on the first wire layer and second wire layer are grouped into groups of parallel wires with a turnaround at one end of each said group and a sensor pad at the opposite end. Each group of parallel wires includes five silver wires spaced a half a centimeter apart. The transparent shield layer is a 25  $\mu\text{m}$  thick layer of transparent conductive glass with a copper shield pad at one side. Vias, filled with silver epoxy, provide contact to each of the sensor or shield pads. An operational amplifier connected to each of the sensor pads and the shield pad biases the pads and receives a signal from connected sensor pads in response to intrusion of a probe. The signal is proportional to probe positional location with respect to the monitor screen. The operational amplifiers are driven from a common oscillator. The wire groups may be replaced with rows and/or columns of capaciflective pixels formed from 25  $\mu\text{m}$  thick transparent conductive glass, each row/column of pixels being connected together by a single wire to a sensor pad.